

Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Ecological Tanks, Inc.
Ecological Tanks
Calhoun, Ouachita Parish, Louisiana
Agency Interest Number: 28079
Activity Number: PER20060001
Draft Permit 2160-0010-V2

I. APPLICANT

Company:
Ecological Tanks, Inc.
2247 Hwy 151 N
Downsville, Louisiana 71234

Facility:
2247 Hwy 151 N.
Calhoun, LA 71234
Approximate UTM coordinates are 557.415 kilometers East
and 3601.000 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

Ecological Tanks, Inc. manufactures fiberglass tanks of various sizes using fiberglass, resin and catalyst. Resin is stored in a 7,000 gallon permanent storage tank inside a building attached to but separated from the production building. The storage tank building is individually heated and cooled and has a 40 inch high poured concrete block containment wall around the silver colored storage tank.

The tank manufacturing process consists of placing a steel mold on a turntable and flowing a resin and catalyst mixture onto the mold. As the resin and catalyst flow, strands of fiberglass are chopped by an air driven chopper gun and sprayed into the fan pattern of the resin and catalyst. The mixture of glass and resin is then rolled flat against the mold where it hardens. The finished tanks are removed from the mold by means of air pressure and assembled into an aerobic sewage treatment plant. Approximately 3 MM lbs/yr of resin is used at this facility.

Resin that averages 38.5 percent (%) styrene is used in an effort to reduce styrene emissions to the atmosphere. In addition, the flow chop method is used for spray application. While other methods of spray applications use air-assisted resin spray that atomizes the resin, the flow chop method significantly reduces styrene emissions by spraying the resin in a liquid form with no atomization. The vapor suppressed resin

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technique is not used at this facility because it contains wax, which prohibits secondary bonding.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire dated January 19, 2006 were submitted by Ecological Tanks, Inc. requesting a Part 70 operating permit renewal. Additional information dated May 21, 2007, October 10, 2007, and January 4, 2008 was also received.

Project

With this renewal, Ecological Tanks, Inc. proposes to update the emission factor used for their fiberglass tank manufacturing and update insignificant activities. Publication of 40 CFR Part 63 Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, introduced new equations to calculate Organic Hazardous Air Pollutants emission factors for specific open molding and centrifugal casting process streams. The old emission factor was updated using these new equations. Also, Volatile Organic Compounds emissions from the catalyst were added in this permit.

Proposed Permit

Permit 2160-00101-V2 will be the Part 70 operating permit renewal for the Ecological Tanks Facility.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
VOC *	58.07	91.96	+ 33.89

***VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):**

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
Styrene	46.37	65.96	+ 19.59**
Methyl Ethyl Ketone	0.52	0.52	-

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***VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):**

Pollutant	Before	After	Change
Dimethyl Phthalate	11.18	11.18	-
Total	58.07	77.66	+ 19.59

Other VOC (TPY): 14.30

**** Increase in styrene is due to a change in an emission factor and not a project related increase.**

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
22-98 (ARE 001) Fiber Tank Construction	LAC 33:III.5109.A 40 CFR Part 63 Subpart WWWW	
EQT 002 T-1 Resin Storage Tank	Storage of Volatile Organic Compounds [LAC 33:III.2103.A]	DOES NOT APPLY. Content of storage tank has vapor pressure less than 1.5 psia.
	Organic Solvents [LAC 33:III.2123.A]	LDEQ has determined that controls required under 2123.A are not feasible to operate for this particular facility.
	NSPS Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984 [40 CFR 60.110b]	EXEMPT. Capacity of storage tank is less than 75 m ³ .

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Prevention of Significant Deterioration/Nonattainment Review

New Source Review was not required.

MACT Requirements

Ecological Tanks is subject to 40 CFR 63 Subpart WWWW, Reinforced Plastic Composite Production. Ecological tanks uses nonatomized mechanical resin application and nonvapor-suppressed resin. Ecological tanks complies with 40 CFR 63 Subpart WWWW by limiting the average annual styrene content to 38.5%. Compliance with NESHAP 40 CFR 63 Subpart WWWW, Reinforced Plastic Composites Production, has been determined to be MACT in accordance with LAC 33:III.5109.A.

Air Quality Analysis

Dispersion Model(s) Used: ISCST3

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
Syrene	8 hr	717.97 $\mu\text{g}/\text{m}^3$	5070 $\mu\text{g}/\text{m}^3$

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

Ecological tanks requested a permit shield to state that the methods of compliance, existing controls, and regulatory exemptions provided in Tables 2.1-2.5 of the application fully demonstrate compliance with applicable requirements and that further controls, compliance demonstration, reporting or recordkeeping are not required. The permit shield was not granted. The owner or operator of any Part 70

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source may request that the permit incorporate a permit shield for explicitly stated federal applicable requirements. Ecological tanks did not explicitly state the federal regulations for which the permit shield was requested. The permit shield will not be granted.

VI. PERIODIC MONITORING

Permittee shall be limited to 3,000,000 lbs/yr of resin. The total amount of resin used shall be recorded each month, as well as the total resin used for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total resin above the maximum listed in this requirement for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the amount of resin used for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

The styrene content of the resin used shall be limited to an annual average of 38.5 percent and shall be recorded daily as well as for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Styrene content above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the styrene content for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Quarterly reports showing the amounts of Toxic Air Pollutants (TAP) emitted shall be submitted to the Office of Environmental Compliance, Enforcement Division by the 28th of the month following each calendar quarter. The quarterly report must show, in addition to the amount of each TAP emitted during the previous quarter, the consecutive 12-month cumulative total for all TAP emissions

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

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New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.